

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005406

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> A61K31/5513, 31/553, 31/5377, A61P43/00, 25/04, 37/06, 35/00, 15/00, 9/10, 7/02, 1/14, 25/28, 21/00, 25/08, 25/14, 7/00, 7/06, 5/24, 3/10, 13/02, 3/06, 17/00, 19/02, 19/08, C07D267/14, 243/24,

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> A61K31/5513, 31/553, 31/5377, A61P43/00, 25/04, 37/06, 35/00, 15/00, 9/10, 7/02, 1/14, 25/28, 21/00, 25/08, 25/14, 7/00, 7/06, 5/24, 3/10, 13/02, 3/06, 17/00, 19/02, 19/08, C07D267/14, 243/24,

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
CAPLUS (STN), REGISTRY (STN), MEDLINE (STN), BIOSIS (STN), EMBASE (STN)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No.    |
|-----------|--|--------------------------|
| X<br>A    | WO 98/47882 A1 (TAKEDA CHEMICAL INDUSTRIES, LTD.),<br>29 October, 1998 (29.10.98),<br>Full text<br>& EP 979227 A1 & JP 11-209356 A<br>& US 6352982 B1  | 1-9, 12-30, 32<br>10, 11 |
| X         | WO 97/10224 A1 (TAKEDA CHEMICAL INDUSTRIES, LTD.),<br>20 March, 1997 (20.03.97),<br>Full text<br>& EP 862562 A1 & EP 1097928 A1<br>& JP 9-136880 A & JP 2001-97963 A<br>& US 6110909 A & US 6613761 B1 | 1, 9, 32                 |

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search  
01 June, 2004 (01.06.04)

Date of mailing of the international search report  
15 June, 2004 (15.06.04)

Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005406

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|-----------|--|-----------------------|
| X         | WO 01/055121 A1 (Kaken Pharmaceutical Co., Ltd.),<br>02 August, 2001 (02.08.01),<br>Full text<br>& AU 2001/28828 A1  | 1, 9, 32              |
| X         | JP 2002-80468 A (Takeda Chemical Industries,<br>Ltd.),<br>19 March, 2002 (19.03.02),<br>Full text<br>& JP 2003-64063 A & WO 01/98282 A1<br>& EP 1292585 A1 & US 2003/007851 A1 | 1, 9, 32              |
| X         | JP 2003-81873 A (Takeda Chemical Industries,<br>Ltd.),<br>19 March, 2003 (19.03.03),<br>Full text<br>& WO 03/02147 A1 & EP 1407782 A1  | 1, 9, 32              |
| A         | WO 03/018795 A1 (Takeda Chemical Industries,<br>Ltd.),<br>06 March, 2003 (06.03.03),<br>Full text<br>& JP 2003-174889 A  | 1-30, 32              |

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005406

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material

☒

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☒

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed

☒

filed together with the international application in computer readable form

☐

furnished subsequently to this Authority for the purposes of search

2. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005406

**Box No. II** Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 31

because they relate to subject matter not required to be searched by this Authority, namely:

Claim 31 pertains to a method for treatment of the human body by therapy and thus relates to a subject matter for which this International Searching Authority is not required, under the provisions of Article 17(2)(a)(i) of (continued to extra sheet)

2. ☐ Claims Nos.:

because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:

because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III** Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

## Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/005406

## Continuation of Box No.II-1 of continuation of first sheet(2)

the PCT and Rule 39.1(iv) of the Regulations under the PCT, to make an international search.

The term "prodrug" used in claims 1-4, 28, 29, and 32 cannot specify the scope of the compounds described in the claims. The term prodrug is not particularly defined in the description. Consequently, the subject matters are neither disclosed in the meaning of Article 5. of the PCT nor sufficiently supported in the meaning of Article 6 of the PCT.

## Continuation of A. CLASSIFICATION OF SUBJECT MATTER (International Patent Classification (IPC))

Int.Cl<sup>7</sup> 281/08, 413/12

(According to International Patent Classification (IPC) or to both national classification and IPC)

## Continuation of B. FIELDS SEARCHED

Minimum documentation searched (International Patent Classification (IPC))

Int.Cl<sup>7</sup> 281/08, 413/12

Minimum documentation searched (classification system followed by classification symbols)

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